Approved For Release 2005/02/10 : CIA-RDP78B04747A001100020063-9 99/505

April 12, 1965

STATINTL Attention: [redacted]

Enclosed are six copies of our [redacted] Type 1032T Microdensitometer specification dated March 15, 1965. Please note that the scan area on this instrument as per the specification is 10 in. in the X axis and 4 in. in the Y axis. Any changes in the scan area would necessitate additional costs. STATINTL

STATINTL The cost of the [redacted] Type 1032T Microdensitometer as per the March 15, 1965, specification is [redacted] for delivery and instal- STATINTL lation charges in the Washington, D.C. area. The above price includes only 10 circular apertures with the following approximate diameter. .009 in., .015 in., .025 in., .042 in., .071 in., .118 in., .196 in., .327 in., .546 in., and .911 in.

The following items are available as optional equipment at additional cost: [redacted] STATINTL STATINTL

1. Dual bilateral adjustable slit required, one illuminating and one pickup, [redacted] each. STATINTL [redacted]

Dual bilateral adjustable illuminating slit. The illuminating (entrance) slit has two pair of narrow band-pass filter glass jaws in the 500-530 millimicron region. The opening motion of the variable slits in both width and length is bilateral and continuously adjustable. Control is by micrometer screws such that one division of micrometer control equals one micron of slit width opening from 1 to 250 microns, at which time the rate automatically changes to 5 microns of slit adjustment per micrometer division. The length adjustment has a rate of 20 microns per micrometer division.

The entrance slit is adjustable from 1 micron to 3000 microns in width and from 0.05 mm to 24 mm in length. The unit is designed so that the adjustable slit assembly may be removed and a fixed slit mount or microspot mount substituted.

The filter glass jaw cannot be used in trichromatic work.

Declass Review by NGA/DOD

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Dual bilateral adjustable pickup slit. The pickup slit is of the dual bilateral continuously adjustable type with the same range of adjustment as the illuminating slit and is controlled by micrometer screws with similar rates of adjustment. The jaws are opaque with the upper surfaces painted white to form a projection screen. The entire pickup slit and its rotation mount is capable of ± 1/4 in. adjustment in X and Y.

2. Rotary Table (illuminating and pickup) This unit provides rotation of slits from 110 degrees on one side of a vertical position to 50 degrees on the other side. The angular position of the slit is read to 0.1 degree. A set is required.

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3. A "micro-spot" projector assembly is capable of insertion in place of the dual bilateral adjustable illuminating slit assembly. A spot of light of the order of a few microns shall be projected on the plate. Densities of over 5.0 and resolutions of over 200 lines/min. are possible with proper combinations of lenses and an initial spot diameter of approximately 65 microns. This density will not necessarily be obtained if a smaller spot size is picked for higher resolution. Selection of spot size must be made within 30 days after receipt of order.

4. Fixed slit jaws (illuminating and pickup) These units will fit the standard 1032T aperture mount.

5. Special microscope and recording camera in place of the standard microscope of 1032T

6. Illuminated optical reading dials for both X and Yaxis so that both subintervals and accumulated turns can be seen in the same field of view. $825/lead screw.

7. Automatic film transport. (35, 70, and 100 mm film or 16, 35, and 70 mm film)

(See 1032T Specification 15 March 1965, section 2.4.2, page 2-2.)

8. Manual Film Transport for 16, 35, 70 mm film in 250 ft rolls and for use with an air puck.

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STAT [redacted] - 3 - April 12, 1965

9. Manual Film Transport for 3-1/2 in. and 9 in. film in 250 ft. rolls and for use with an air puck. [redacted]

10. An air puck for the highest power objectives to level the film during measuring. (The government would be expected to supply a source of clean dry air for the puck.)

Delivery of the above equipment can be within 210 to 240 days after receipt of a purchase order. This quote shall be firm for a period of 45 days. Our terms are net 30 days.

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Should you have any further questions, please do not hesitate to contact us. We would be pleased to have you visit our facilities and see a [redacted] Type 1032A Microdensitometer just completed for Patrick Air Force Base. We are currently waiting for our customer to complete his clean room facilities and expect to have the equipment in-house for at least two to three weeks.

STATINTL

Very truly yours,

[redacted]

Manager, Engineering

CW:bpc

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The Second Order Wedge can be used to cover the range from 400 mμ to 750 mμ continuously. The half-width at mid range is 10 - 12 mμ with a 1 mm slit. Half width is approximately proportional to wave length. The dispersion is 5 to 6 mμ / mm. This wedge is not a single pass filter and it has pass bands at other than the expected one in the second order. They may be at one half, two thirds or twice the expected wavelength. The general expression for describing optical interference is:

$$n\lambda = 2\mu t \cos\phi$$

where n = The order of interference

λ = wavelength

μ = effective index of the Fabry-Perot layer

t = thickness of the separation of the two surfaces

ϕ = the angle of incidence

In the case of the second order wedge at any one point along its length, $2\mu t \cos\phi$ is a constant. We may therefore write, using the second order as a fixed reference:

$$2\lambda_1 = n\lambda_2$$

where λ_1 = wavelength in the second order

λ_2 = wavelength in other orders described by $n = 1, 3, 4$ etc.

order	1	2	3	4
	810	440	293	220
	1090	545	363	272
	1340	670	446	335

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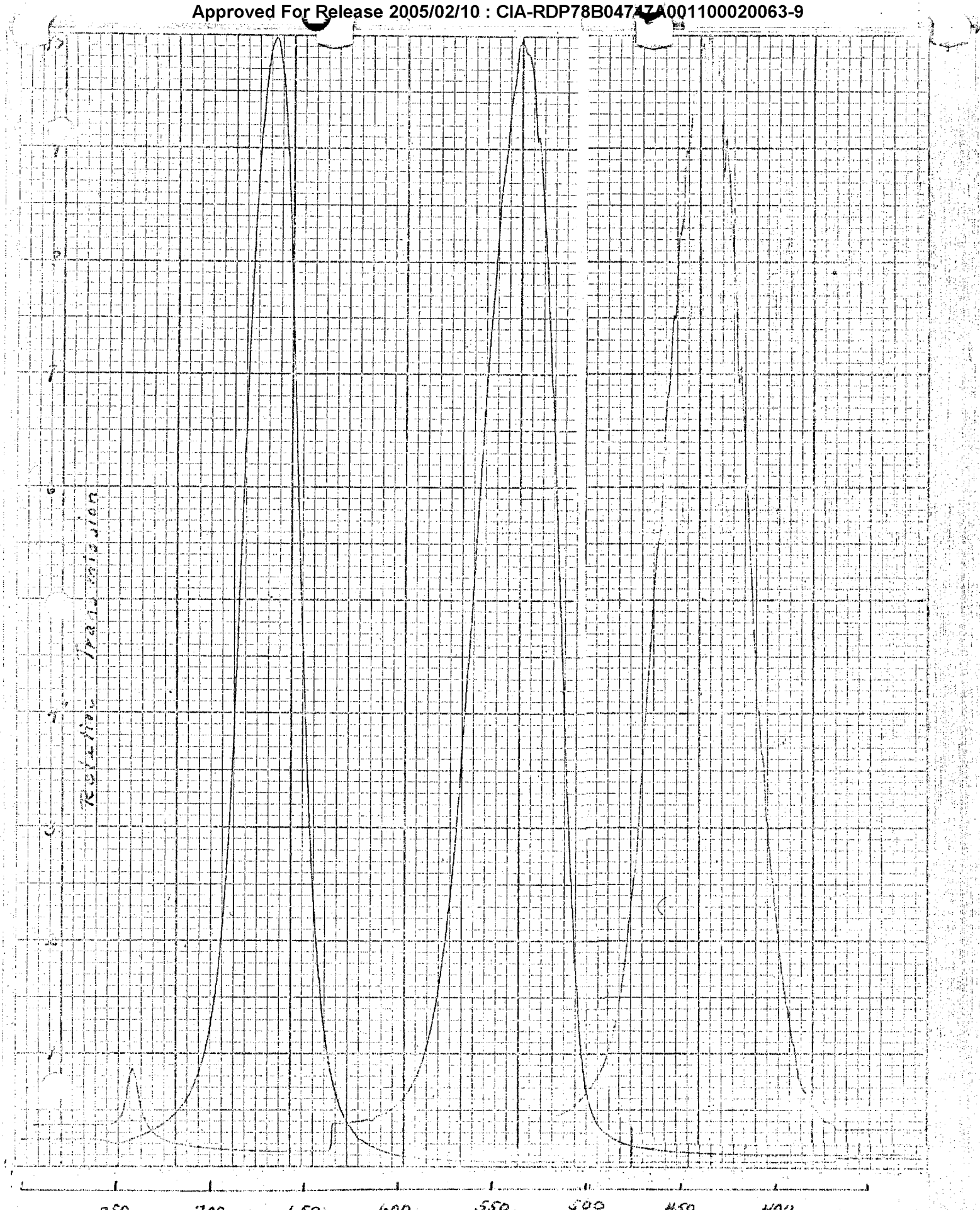

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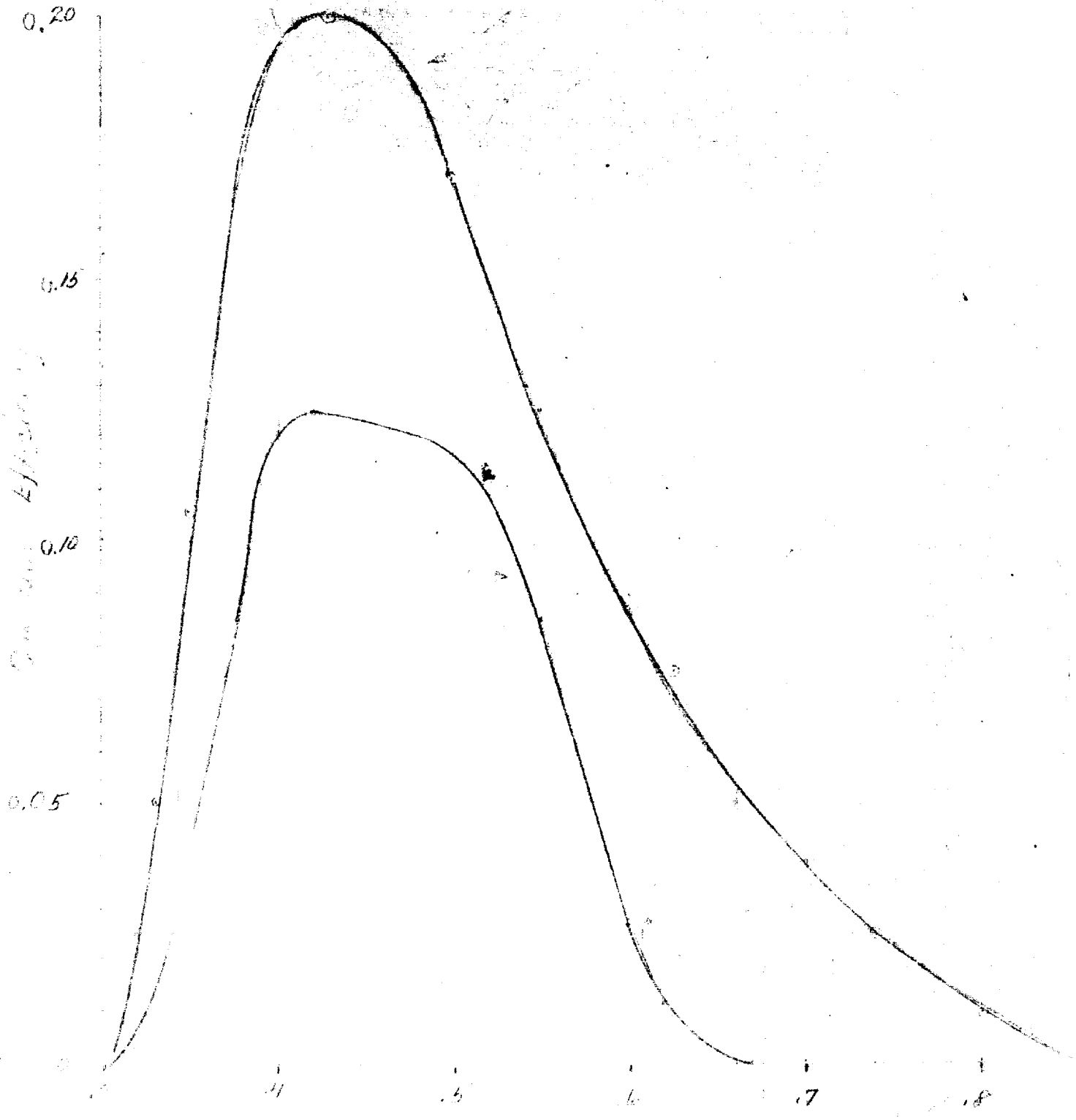
S-20 Response



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BY ____ DATE 1-22-64 SUBJECT E G & G

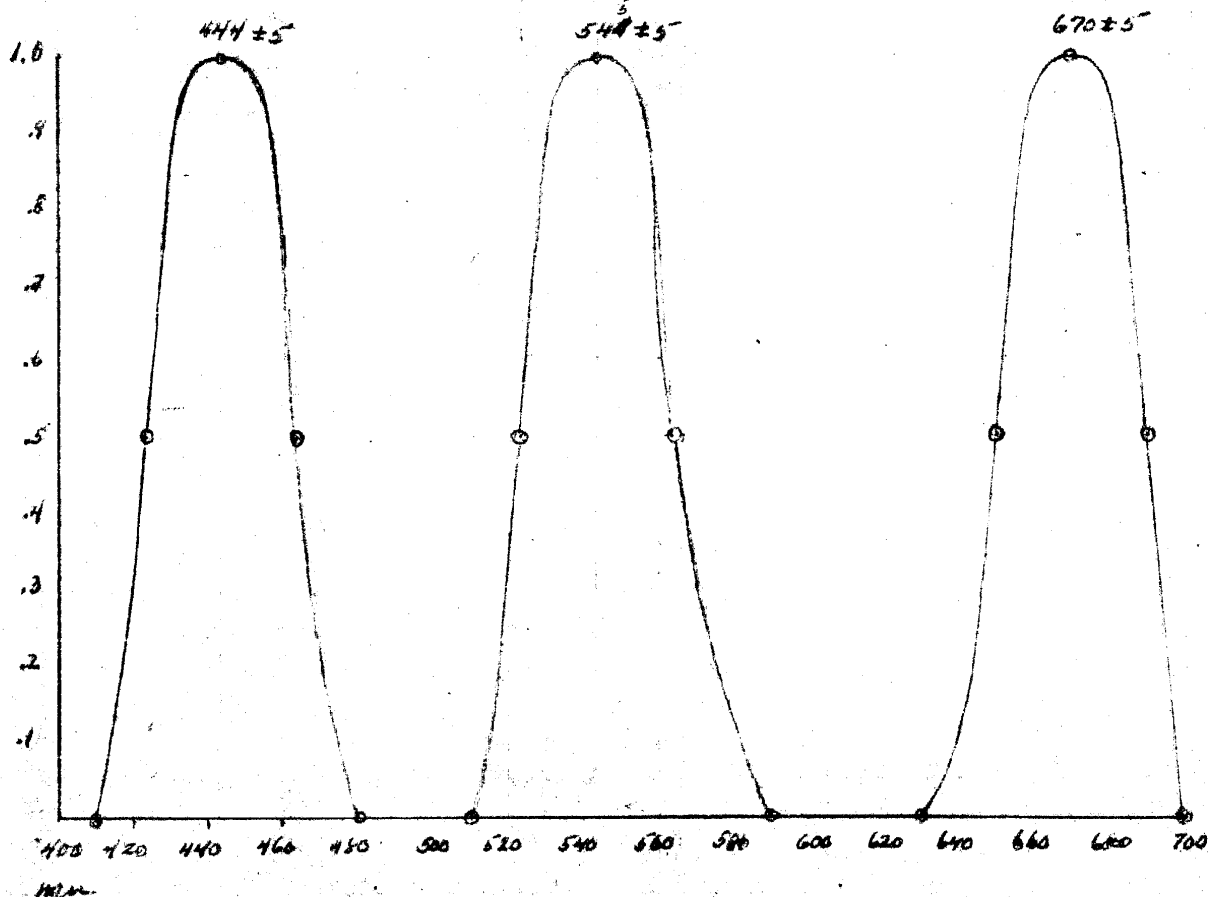
CHKD. BY ____ DATE ____ Transmitted by Phone

Robt. Boetham

JOB NO. ____ SHEET NO. 47105 OF ____

E G & G Desired Response = $K_\lambda Q_\lambda F_\lambda F'_\lambda H_\lambda \lambda$

(Normalized for each Band)



Specified points plotted

Lowest value = 1% or less (plotted at 0)

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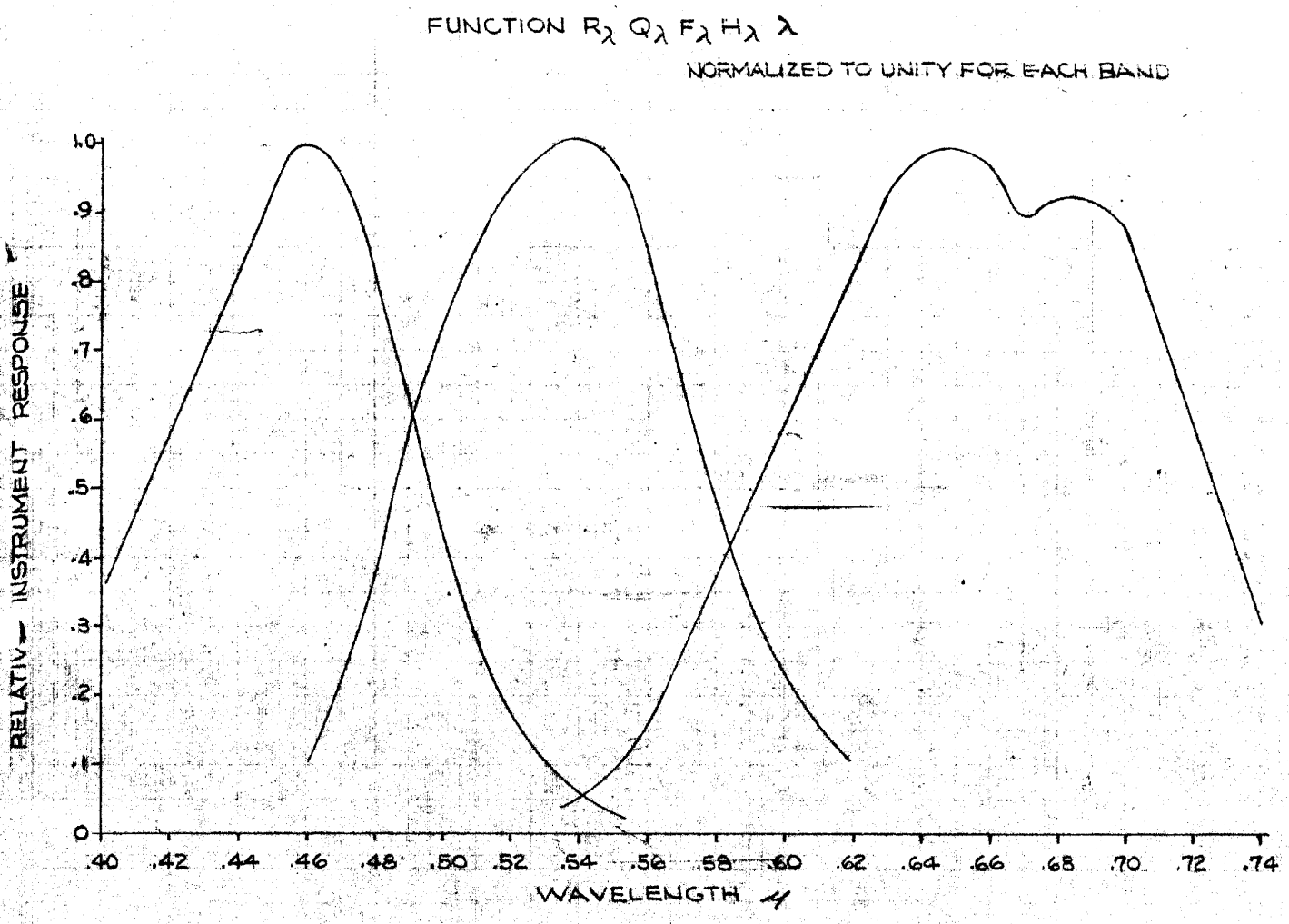

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BY _____ DATE _____ SUBJECT _____
CHKD. BY _____ DATE _____ SHEET NO. _____ OF _____
JOB NO. _____

191505

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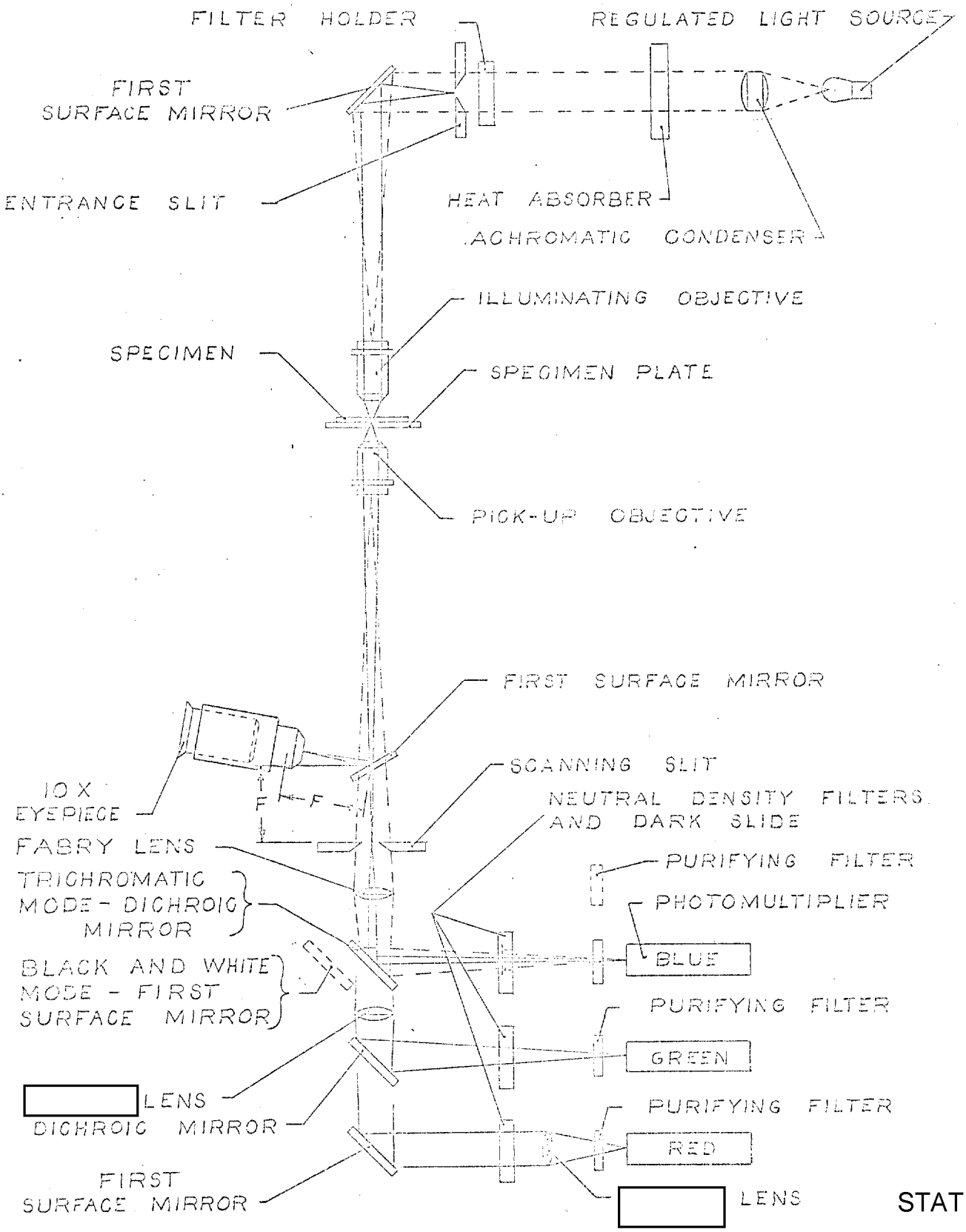

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P&DS

99150-5
NPIC PROJECT NO.

JUN 17 12 11 PM '65

SECRET
CLASSIFICATION

Responsible component
TID
17 JUN 1965

RECEIPT OCB/OS

DISSEMINATED OCB/OS

SUPPORT/SERVICE REQUIREMENT

(The following info is required when rqmts are levied by external organizations)

OFFICE_____ DATE OF RQMT_____ CONTROL NO._____

NPIC DIV/DETACH PROCESSING RQMT_____ PROJ OFF_____ PHONE_____

SUPPORT REQUESTED OF_____ PRIORITY_____ DATE REQUIRED_____

(The following info is required when rqmts are levied for internal support)

DIV/STAFF TID DATE OF RQMT 15 MAY 1965 CONTROL NO._____ 25X1A

SUPPORT REQUESTED OF P&DS PROJ OFF [redacted] PHONE [redacted] 25X1A

PRIORITY_____ DATE REQUIRED 30 DECEMBER 1966

1. BACKGROUND INFORMATION:

NPIC

The work requested is in support of a departmental: ☐ Photo interpretation proj.; ☐ Non-photo interpretation project. It will result in: ☐ Hard copy report; ☐ Informal report (memo); ☒ Basic service only.

Project Description: MICRODENSITOMETER SUPPORT

2. SPECIFIC SUPPORT/SERVICE REQUESTED: Support from NPIC will probably consist of: ☐ Photographic; ☐ Reproduction; ☐ Mensuration; ☐ Graphics; ☐ ADP; ☐ Editing; ☒ Other (explain below) -- (Include statement as to estimated amount of work required of support component(s); i.e., number of contact prints, enlargements, boards, etc.)

ASSIST TID AS A CONSULTANT ON THEIR PROCUREMENT OF A [redacted] TYPE 1032 MICRO- 25X1A

DENSITOMETER AND ASSOCIATED CLEAN ROOM.

3. URGENCY JUSTIFICATION: (If immediate support is required a statement of justification must be made on this form.)

DATE OF COMPLETION

SECRET
CLASSIFICATION

25X1A NPIC FM 218 (4-64)

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